

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A common interface controller for use in a digital television device having a connector for a selectively attachable conditional access module for descrambling channels of a transport stream as identified by respective PIDs[;], the common interface controller including:

a first input interface for a first transport stream having a first channel identifiable by one or more first PIDs;

a conditional access interface ~~for transmitting~~ configured to transmit to [[a]] the conditional access module transport streams having scrambled channels and ~~for receiving~~ receive from the conditional access module transport streams having descrambled channels; ~~wherein the common interface controller further includes:~~

a second input interface for a second transport stream having a second channel identifiable by one or more second PIDs;

a forward multiplexer ~~for providing~~ configured to provide an intermediate data stream by time multiplexing at least [[a]] part of the first transport stream with at least [[a]] part of the second transport stream, the at least part of the first transport stream including the first channel and the at least part of the second transport stream including the second channel; [[and]]

a PID remapper ~~for changing~~ configured to change the original values of the second PIDs to intermediate values not used by any PID of said at least [[a]] part of the first transport stream such that said intermediate data stream forms an intermediate transport stream, the conditional access interface being arranged to transmit the intermediate transport stream to a conditional access module ~~for descrambling of~~ configured to descramble at least the first channel and the second channel;

a return demultiplexer configured to receive from the conditional access interface the intermediate transport stream descrambled by the conditional access module and separate said at least part of the first transport stream from said at least part of the second transport stream; and

a PID demapper configured to change the intermediate values of the one or more second PIDs, as received by the conditional access interface from the conditional access module, back to their original values.

Claim 2 (Currently Amended): A common interface controller according to claim 1 wherein:

the PID remapper is arranged to change the original values of each PID of the channels in said at least [[a]] part of the second transport stream to respective intermediate values not used by any PID of said at least part of the first transport stream.

Claims 3-4 (Canceled).

Claim 5 (Currently Amended): A common interface controller according to claim [[3]] 1 wherein:

the PID demapper is arranged to change the intermediate values of each PID of the channels in said at least [[a]] part of the second transport stream, as received by the conditional access interface from [[a]] the conditional access module, back to the respective original values.

Claim 6 (Currently Amended): A common interface controller according to claim [[4]] 1 further including:

a secondary return multiplexer ~~for receiving~~ configured to receive from the return demultiplexer said at least [[a]] part of the second transport stream, as changed by the PID demapper, and ~~for multiplexing~~ multiplex at least a part of the received at least [[a]] part of the second transport stream with the remaining data of the second transport stream so as to output the second transport stream having the second channel descrambled.

Claim 7 (Currently Amended): A common interface controller according to claim 6 further including:

a secondary buffer ~~for storing~~ configured to store at least those parts of the second transport stream not forming said at least [[a]] part of the second transport stream and for use by the secondary return multiplexer.

Claim 8 (Currently Amended): A common interface controller according to claim 7 wherein:

said at least [[a]] part of the second transport stream includes Table Information for the second transport stream and the secondary buffer is arranged to store the Table Information for use by the secondary return multiplexer.

Claim 9 (Currently Amended): A common interface controller according to claim [[3]] 1 further including:

a primary return multiplexer ~~for receiving~~ configured to receive from the return demultiplexer said at least [[a]] part of the first transport stream and ~~for multiplexing~~ multiplex the received at least [[a]] part of the first transport stream with the remaining data of the first transport stream so as to output the first transport stream having the first channel descrambled.

Claim 10 (Currently Amended): A common interface controller according to claim 9 further including:

a primary buffer ~~for storing~~ configured to store at least those parts of the first transport stream not forming at least a part of the first transport stream and for use by the primary return demultiplexer.

Claim 11 (Currently Amended): A common interface controller according to claim 10 wherein:

said at least [[a]] part of the first transport stream includes the Table Information for the first transport stream and the primary buffer is arranged to store the Table Information for use by the primary return multiplexer.

Claim 12 (Currently Amended): A common interface controller according to claim 1 further including:

a primary forward demultiplexer ~~for receiving~~ configured to receive the first transport stream from the first input interface, ~~separating~~ separate from the first transport stream said at least [[a]] part of the first transport stream, and ~~outputting~~ output said at least [[a]] part of the first transport stream to the forward multiplexer.

Claim 13 (Currently Amended): A common interface controller according to claim 1 further including:

a secondary forward demultiplexer ~~for receiving~~ configured to receive the second transport stream from the second input interface, ~~separating~~ separate from the second

transport stream said at least ~~[[a]]~~ part of the second transport stream, and ~~outputting output~~
said at least ~~[[a]]~~ part of the second transport stream.

Claim 14 (Original): A common interface controller according to claim 13 wherein:
the PID remapper is connected between the secondary forward demultiplexer and the
forward multiplexer.

Claim 15 (Currently Amended): A common interface controller according to claim 1
further including:

a command interface ~~for communication~~ configured to communicate with ~~[[a]]~~ the
conditional access module.

Claim 16 (Currently Amended): A digital television device ~~including comprising:~~
a connector for a selectively attachable conditional access module ~~for descrambling~~
configured to descramble channels of a transport stream as identified by respective PIDs; and
~~further including:~~

a common interface controller ~~for use in a digital television device having a connector~~
~~for a selectively attachable conditional access module for descrambling channels of a~~
~~transport stream as identified by respective PIDs; the common interface controller~~
including~~[[:]]~~

a first input interface for a first transport stream having a first channel
identifiable by one or more first PIDs~~[[:]]~~,

a conditional access interface ~~for transmitting~~ configured to transmit to ~~[[a]]~~
the conditional access module transport streams having scrambled channels and ~~for~~

~~receiving~~ receive from the conditional access module transport streams having descrambled channels; ~~wherein the common interface controller further includes:~~

a second input interface for a second transport stream having a second channel identifiable by one or more second PIDs[[]];

a forward multiplexer ~~for providing~~ configured to provide an intermediate data stream by time multiplexing at least [[a]] part of the first transport stream with at least [[a]] part of the second transport stream, the at least part of the first transport stream including the first channel and the at least part of the second transport stream including the second channel[[]; and];

a PID remapper ~~for changing~~ configured to change the original values of the second PIDs to intermediate values not used by any PID of said at least [[a]] part of the first transport stream such that said intermediate data stream forms an intermediate transport stream, the conditional access interface being arranged to transmit the intermediate transport stream to [[a]] the conditional access module ~~for descrambling~~ of configured to descramble at least the first channel and the second channel,

a return demultiplexer configured to receive from the conditional access interface the intermediate transport stream descrambled by the conditional access module and configured to separate said at least part of the first transport stream from said at least part of the second transport stream, and

a PID demapper configured to change the intermediate values of the one or more second PIDs, as received by the conditional access interface from the conditional access module, back to their original values.

Claim 17 (Original): A digital television device according to claim 16 wherein the device is one of a digital television receiver, a digital TV tuner board for a personal computer and a Personal Video Recorder.

Claim 18 (Original): A digital television device according to claim 16 in combination with one or more conditional access modules selectively attachable to said connector.

Claim 19 (Currently Amended): A method of descrambling channels of first and second transport streams using a conditional access module for descrambling channels of a transport stream as identified by respective PIDs, the method including:

providing an intermediate data stream by time multiplexing at least [[a]] part of the first transport stream with at least [[a]] part of the second transport stream, the at least part of the first transport stream including a first channel and the at least part of the second transport stream including a second channel; [[and]]

changing the original value of one or more PIDs identifying the second channel to an intermediate value not used by any PID of said at least [[a]] part of the first transport stream such that the intermediate data stream forms an intermediate transport stream for processing by the conditional access module;

receiving the intermediate transport stream descrambled by the conditional access module and separating said at least part of the first transport stream from said at least part of the second transport stream; and

changing the intermediate values of the one or more second PIDs, as received from the conditional access module, back to their original values.

Claim 20 (New): A common interface controller for use in a digital television device having a connector for a selectively attachable conditional access module for descrambling channels of a transport stream as identified by respective PIDs, the common interface controller including:

- a first input interface for a first transport stream having a first channel identifiable by one or more first PIDs;

- a conditional access interface configured to transmit to the conditional access module transport streams having scrambled channels and receive from the conditional access module transport streams having descrambled channels;

- a second input interface for a second transport stream having a second channel identifiable by one or more second PIDs;

- a forward multiplexer configured to provide an intermediate data stream by time multiplexing at least part of the first transport stream with at least part of the second transport stream, the at least part of the first transport stream including the first channel and the at least part of the second transport stream including the second channel;

- a PID remapper configured to change the original values of the second PIDs to intermediate values not used by any PID of said at least part of the first transport stream such that said intermediate data stream forms an intermediate transport stream, the conditional access interface being arranged to transmit the intermediate transport stream to a conditional access module configured to descramble at least the first channel and the second channel; and

- a primary forward demultiplexer configured to receive the first transport stream from the first input interface, separate from the first transport stream said at least part of the first transport stream, and output said at least part of the first transport stream to the forward multiplexer.